



UNITED STATES PATENT AND TRADEMARK OFFICE

cen

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,698	06/09/2005	Hiroki Kisu	03500.017145	2182

5514 7590 09/13/2007
FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

SARKAR, ASOK K

ART UNIT	PAPER NUMBER
----------	--------------

2891

MAIL DATE	DELIVERY MODE
-----------	---------------

09/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,698	Applicant(s) KISU ET AL.	
	Examiner Asok K. Sarkar	Art Unit 2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/04 and 2/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: In line 2, following the phrase, according to, the word "any" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 – 3, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fiedler, US 6,197,387.

Regarding claim 1, Fiedler teaches a method of manufacturing an electrically conductive member having an electrically conductive film on a surface of a substrate, comprising the steps of: (i) forming a layer containing a colloid on a porous surface of the substrate having at least the porous surface by applying a colloidal solution and (ii) forming an electrically conductive layer by drying the layer containing the colloid in various places of the disclosure especially in column 9, line 65, column 10, lines 6 – 7 and lines 22 – 24 and in column 8, lines 57 – 59.

Regarding claim 2, Fiedler teaches the colloid is a metal colloid in column 9, line 65.

Regarding claim 3, Fiedler teaches the metal is gold, platinum and palladium in column 7, lines 6 – 13.

Regarding claim 3, Fiedler teaches the method includes the step of forming the layer containing the colloid on the porous surface in a position – selective manner with reference to Figs 1 and 2.

Regarding claim 9, Fiedler teaches an electrically conductive member manufactured by the method according to any of claims 1 to 8.

This is a product claim and therefore methods of preparation are not given any patentable weight.

Note that a “product by process” claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Note that applicant has the burden of proof in such cases, as the above case laws make clear.

Regarding claim 10, Fiedler teaches an electrically conductive member having an electrically conductive film on a porous surface of a substrate, the electrically conductive film being a dried film of a wet applied film containing colloidal particles as was discussed in rejecting claim 1.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2891

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 4, 6 – 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fiedler, US 6,197,387 in view of the Admitted Prior Art (APR).

Regarding claim 4, Fiedler fails to disclose applying the colloidal solution to the surface by a spin coating method.

The APA teaches that the colloidal solution can be applied to the surface by a

Art Unit: 2891

spin coating method for the benefit of forming a film with excellent electrical conductivity in page 2, lines 2 – 12.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Fiedler and apply the colloidal solution to the surface by a spin coating method for the benefit of forming a film with excellent electrical conductivity as taught by the APA in page 2, lines 2 – 12.

Regarding claim 6, Fiedler fails to disclose applying the colloidal solution to the surface by an inkjet method.

The APA teaches that the colloidal solution can be applied to the surface by a inkjet method for the benefit of forming a film with excellent electrical conductivity in page 2, lines 2 – 12 and in 20 – 22.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Fiedler and apply the colloidal solution to the surface by an inkjet method for the benefit of forming a film with excellent electrical conductivity as taught by the APA in page 2, lines 2 – 12 and in 20 – 22.

Regarding claim 7, Fiedler fails to disclose that the vicinity of the porous surface, including the surface, has a pseudobehmite structure.

The APA teaches applying colloidal solution on a substrate having a porous structure of pseudobehmite type for the benefit of greatly improving the quality of an electrically conductive film by the excellent ink absorbing capacity and high image density of the substrate (see English abstract of JP 2000318308) in page 11, lines 1 – 5.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Fiedler and supply the porous surface with a pseudobehmite structure for the benefit of greatly improving the quality of an electrically conductive film by the excellent ink absorbing capacity and high image density of the substrate as taught by the APR in page 11, lines 1 – 5.

Regarding claim 8, Fiedler fails to disclose that the following condition is satisfied when it is assumed that an average particle diameter of the metal colloid is $\Theta_1 \text{ ave}$ and that an average pore diameter of the porous surface is $\Theta_2 \text{ ave}$: $\Theta_1 \text{ ave} \geq \Theta_2 \text{ ave}$.

However, it would have been obvious to one with ordinary skill in the art at the time of the invention that the relation $\Theta_1 \text{ ave} \geq \Theta_2 \text{ ave}$ will hold true since otherwise the ink will not be absorbed in the porous layer and the quality of an electrically conductive film will not be so great.

Regarding claims 11 and 12, Fiedler teaches using the film in IC chips and semiconductor substrates in column 1, lines 10 – 18, but fails to teach that the electrically conductive member has portions in contact with an organic semiconductor.

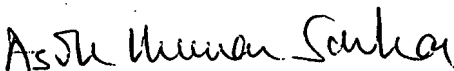
However, it would have been obvious to one with ordinary skill in the art at the time of the invention that the electrically conductive member has portions in contact with an organic semiconductor since organic semiconductors are known to be used in many commercial OLED and organic TFT devices.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 571 272 1970. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on 571 272 1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Asok K. Sarkar
September 10, 2007

Primary Examiner